

Patent Application: 10/025,750
Docket No: P16100US

Claim Amendments

Please cancel claims 18-23 without prejudice to the Applicants.

These claims are cancelled in order to expedite the prosecution of the present application and because the remaining claims adequately cover the invention useful for the Applicants.

Remarks

Claims Rejections: 35 U.S.C. §103(a)

Claim 1 stands rejected under section 103(a) of 35 U.S.C. for being allegedly unpatentable over Eyuboglu (US Patent publication US 2002/0196749) in view of Jappinen (US patent publication US 2003/0012133).

Applicants respectfully traverse and kindly submit that the outstanding rejection is defective, because first, it fails to teach or suggest the claimed limitations and, second, because the teachings of Eyuboglu and Jappinen cannot be combined together to achieve a functional and workable entity without creativeness and inventiveness.

Claim 1 is directed to a method for replacing a failed data session slave control unit (GTP-C/s) in a Gateway General Packet Radio Service Support Node (GGSN), the method comprising the steps of:

detecting a failure or a shutdown of the GTP-C/s in the GGSN;

detecting if the failed GTP-C/s controlled any data sessions before it failed; and

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if the failed GTP-C/s controlled any data sessions before it failed, closing all the data sessions and accounting sessions related to the data sessions.

Eyuboglu teaches an arrangement with multiple Radio Network Controllers (RNCs) and multiple Radio Nodes (RNs), wherein a session is established for an access terminal associated with the serving RNC. The association is maintained as the terminal moves from the coverage area of one RN to the coverage area of another RN. Access channel packets are routed from a terminal having an existing session to the serving RNC by determining the IP address of the serving RNC using a session identifier. Paragraph [0069] referred to by the examiner as allegedly disclosing the Applicants' claimed limitations actually teaches a cellular recovery procedure for use by RNs when one or more RNCs become unavailable. Based on this teaching, when an RNC becomes unreachable, the terminals being served by that RNC recognize that their sessions are lost, and initiate new connection requests. These requests are routed via RNs to the default RNC. When the default RNC is unavailable, a secondary default RNC is contacted. When a proper default RNC is successfully contacted, it establishes new sessions with the terminal.

Eyuboglu's paragraph [0069] referred to by the Examiner, as well as paragraph [0070], clearly indicate that the assignment of the secondary RNC (i.e. the new default RNC) is performed by an RNC resource control agent, which may also be responsible of performing load balancing to achieve even distribution of user sessions across all available RNCs.

The teaching of Eyuboglu is limited to a method of contacting an RNC by RNs in order to establish connections with terminals that may be roaming throughout the network. There is no mention in Eyuboglu of any kind of detection of failures associated with any data session slave control unit (GTP-C/s). Rather, in Eyuboglu's paragraph [0069], it is the entire radio network controller that fails, not only one of its units.

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There is also no mention in Eyuboglu of detecting if the failed GTP-C/s controlled any data sessions before it failed. Rather, in Eyuboglu, the entire radio network controller fails without any further detection of the data sessions maintained before it failed. Finally, because in Eyuboglu it is the entire radio network controller that fails, Eyuboglu cannot be said to teach or suggest that if the failed GTP-C/s controlled any data sessions before it failed, it further acts to close all the data sessions and accounting sessions related to the data sessions as claimed by the present invention.

Conclusively, the Applicants' claimed invention contains limitations that are not taught or suggested by Eyuboglu.

Jappinen teaches a communications system having enhanced fault tolerance by providing multiple ATM permanent virtual channel connections between a core network element and an access network element, and by providing a separate ATM interface unit for each such ATM permanent virtual channel connection in a network element. The user and signaling traffic is distributed among active connections and interface units. In case of a failure in one of the connection or interface units, the communication is maintained over the other connections and interface units of the network element so that only part of the transport is lost in case of such failure.

Jappinen does not teach, as alleged by the examiner, "redundant GTP units". The GTP units disclosed in Jappinen are not redundant but rather units over which the user data traffic is distributed (see paragraph 27). When one of the Jappinen's units fails, a portion of the traffic is actually lost, and no other unique takes it the over (See Abstract), contrary to the redundant GTP units, where when one of the units fails, its function is taken over by another unit.

Conclusively, Jappinen fails to teach or suggest redundant GTP units as claimed by the Applicants.

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Applicants further respectfully submit that it is impossible to achieve a proper and functional combination of the teachings of Eyuboglu and Jappinen. Eyuboglu teaches how an RN can contact an RNC in order to maintain connections with terminals that may roam throughout the network, even in case where the default RNC is unreachable in which case, an RNC control agent directs the RN to another default RNC. On the other hand, Jappinen teaches how, inside an RNC, data traffic is distributed over multiple, non-redundant GTP units, to reduce the lost traffic when such a unit fails.

One ordinarily skilled in the art cannot combine the network signaling method for contacting a default RNC of Eyuboglu with Jappinen's internal RNC distributed architecture for achieving the Applicants' claimed invention. Because the scope of Eyuboglu is to provide RNC functionality recovery at the network level, while Jappinen's scope is to provide an internal RNC distributed architecture for minimizing lost traffic when an internal GTP unit fails, it is apparent that the combination of Eyuboglu and Jappinen is not possible without extensive modifications made to both Eyuboglu and Jappinen, which will require creation and inventiveness.

Therefore, Applicants submit that because the cited references fail to teach and suggest all the claimed limitations as mentioned hereinbefore, and further because their combination requires inventiveness from one skilled in the art, the outstanding rejection under §103(a) is defective and should be withdrawn. Claim 1 is thus respectfully submitted to be in novel and non-obvious, and thus patentable over the combination of Eyuboglu and Jappinen.

Claims 2-6 are dependent of claim 1, and since they merely add further limitations and clarifications thereto, they are believed to be patentable as well.

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Claim 7 is an independent claim having limitations similar to those of claim 1, and is therefore submitted as being patentable for the same reasons. Claims 8-12 are dependent of claim 7, and since they merely add further limitations and clarifications thereto, they are believed to be patentable as well.

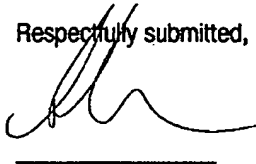
Claim 13 is another independent claim having limitations similar to those of claim 1, and is therefore submitted as being patentable for the same reasons. Claims 14-17 are dependent of claim 13, and since they merely add further limitations and clarifications thereto, they are believed to be patentable as well.

Conclusion

All pending claims 1-17 are herein submitted as being in favorable condition for allowance.

In the Examiner finds out that a prosecution of the present invention would be facilitated by telephone interview, the Examiner is invited to contact the undersigned, Alex Nicolaescu, at telephone number (514) 345- 7900 extension number 2596.

Respectfully submitted,



Alex Nicolaescu

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